



Figure 4.11. NCDOT special survey of vertical clearance at selected bridges.

4.4. Results

Vertical clearance data for several bridges at grade separations and overhead signs were submitted by the two vendors. The amount of data is not sufficient for statistical analysis, but general comparisons can be made by referencing the NCDOT special survey data and the existing vertical clearances listed in the bridge inventory file. Figure 4.12 illustrates some important relationships. The minimum vertical clearance (MVC) is a function of the longitudinal and transverse slopes of both the roadway below and the superstructure above. The concern for posting vertical clearance is the minimum value located at any point in the traffic lanes under the bridge or sign structure. This value does not necessarily represent the maximum possible clearance across the overhead elements total length. However, the maximum minimum vertical clearance (MMVC) in an identified lane does capture this height. The MMVC is important for routing permitted over-height vehicles and thus both MVC and MMVC are recorded in the inventory.

In the next few pages comparisons will be shown for three different physical locations along the test loop. The comparison will consist of a figure showing the actual location of each vendor's data collection as well as the reference survey data collection locations and a table summarizing the survey findings. Actual locations of vendor surveys are denoted on satellite images of the overhead element, gathered using the Google earth program. In these plots the location symbols for the three sets of data (NCDOT reference survey, Geo-3D, and Terramatrix) are the same and the key is given in Table 4.1. In all of the tables, height values are given by lane number. The convention followed for this report is as follows:

- Lane 1 is the pavement marking at the right of the rightmost lane at the roadway edge of the shoulder;
- Lane 2 corresponds to the lane markings at the right edge of the lane immediately to the left of lane number one;
- Lane 3 corresponds to the lane markings at the right edge of the lane immediately to the left of lane number two;